



IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Lee et al.

Attorney Docket No.:
NOVLP033X1/NVLS-000498X1

Application No.: 10/649,351

Examiner: UNASSIGNED

Filed: August 26, 2003

Group: UNASSIGNED

Title: METHOD FOR REDUCING TUNGSTEN
FILM ROUGHNESS AND IMPROVING
STEP COVERAGE

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first-class mail on August 25, 2004 in an envelope addressed to the Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450.

Signed: _____

Joyce L. Ferreira

INFORMATION DISCLOSURE STATEMENT
37 CFR §§1.56 AND 1.97(b)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The references listed in the attached PTO Form 1449 may be material to examination of the above-identified patent application. Applicants submit the list of these references in compliance with their duty of disclosure pursuant to 37 CFR §§1.56 and 1.97. The Examiner is requested to make these references of official record in this application.

This Information Disclosure Statement is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these references indeed constitute prior art.

This Information Disclosure Statement is: (i) filed within three (3) months of the filing date of the above-referenced application, (ii) believed to be filed before the mailing date of a first Office Action on the merits, or (iii) believed to be filed before the mailing of a first Office Action after the filing of a Request for Continued Examination under §1.114. Accordingly, it is believed that no fees are due in connection with the filing of this Information Disclosure Statement. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 500388 (Order No. NOVLP033X1).

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP

Jeffrey K. Weaver

Registration No. 31,314

P.O. Box 778
Berkeley, CA 94704-0778



Form 1449 (Modified) Information Disclosure Statement By Applicant (Use Several Sheets if Necessary)	Atty Docket No. NOVLP033X1/NVLS-000498X1 Applicant: Lee et al. Filing Date August 26, 2003	Application No.: 10/649,351 Group 1762

U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A1						

Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
	B1							

Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	C1	Klaus et al., "Atomically Controlled Growth of Tungsten and Tungsten Nitride Using Sequential Surface Reactions," Applied Surface Science, 162-163, (2000) 479-491.
	C2	Li et al., "Deposition of W_Nx_Cy Thin Films by ALCVD TM Method for Diffusion Barriers in Metallization," IITC Conference Report, 2002, 3 Pages.
	C3	Elam et al., "Nucleation and Growth During Tungsten Atomic Layer Deposition on SiO_2 Surfaces," Thin Solid Films, 2001, 13 Pages.
	C4	Collins et al., "Pulsed Deposition of Ultra Thin Tungsten for Plugfill of High Aspect Ratio Contacts," Presentation made at Semicon Korea 2003, January 21, 2003, 9 pages.
	C5	Collins, et al., "Pulsed Deposition of Ultra Thin Tungsten for Plugfill of High Aspect Ratio Contacts," Semiconductor Equipment and Materials International, Semicon Korea, January 21, 2003, 3 pages.
	C6	Lee et al., "Pulsed Deposition of Ultra Thin Tungsten and its Application for Plugfill of High Aspect Ratio Contacts, Abstract, January 21, 2003, 1 page.
		Collins et al., "Pulsed Deposition of Ultra Thin Tungsten for Plugfill of High Aspect Ratio Contacts," Presentation made at Semicon Korea 2003, January 21, 2003, 9 Pages
Examiner		Date Considered

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.